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ABSTRACT

The structural ambiguity of American professional schools is considered, with attention to the academic branches of business and medicine. Differences in the nature of clinical-academic tensions in business and medical schools are explored, along with the structural sources of these differences. Trends within professional schools during the early twentieth century are identified and compared to arrangements resulting from the institutionalization of professional schools in the late nineteenth century. The recent reemergence of practical professionalization in business schools is linked to changes in contingencies facing American business and to efforts of management schools to remain relevant to the interests of corporations. Changes in medical faculty work roles are also addressed. Consequences of developments within professional schools for letters and science faculty are evaluated. It is noted that changes in academic work roles within the clinical departments of medical schools have been accompanied by heightened tension between medical and letters and science faculties over appointment tracks and tenure. Finally, the the work environment at professional schools is considered, along with possible impacts of employment trends on the nature of knowledge produced by disciplinary subfields. A four-page bibliography is included.

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November 1985

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PROFESSIONAL SCHOOLS IN THE AMERICAN UNIVERSITY

Sydney Ann Halpern

Though the term "academic profession" is often used to refer exclusively to faculty in the traditional letters and sciences disciplines, professional school faculty are a dominant presence in American institutions of higher education. Their importance is reflected both in numbers and dollars. In American research universities, faculties of professional schools frequently constitute more than 60 percent of the total professoriat.¹ These schools wield an impressive share of institutional resources. Among universities that offer medical training, medical school budgets alone comprise one-quarter of total university expenditures, and this excludes the very sizable budgets of university-owned teaching hospitals; it is not unusual for combined medical school and university hospital budgets to exceed that of the remaining portions of their campuses.² Professional schools and letters and science divisions are separate and parallel organizational units, each with its own departments and administrative hierarchies. Schools for the major professions like medicine and law exercise a substantial degree of autonomy in the management of internal affairs and have considerable impact on the university as a whole.

The large and influential professional school segments of the American professoriat occupy a special position within institutions of higher education. Janus-like, they sit facing, on the one side, the university and its commitment to academic norms and standards and,

on the other, practicing professions with their guild interests and concerns with client-oriented professional services. The disparate mandates of professional school faculties include the creation and systematization of knowledge and the transmission of distinctly vocational skills and attitudes. Sociologist Donald Light sees the American professional school as having a structural ambiguity; by this he means it faces "cross-cutting pressures and expectations" due to its location "at the intersection of two social structures for which it has different meanings."³ The resulting plurality of missions is accompanied by tensions within professional schools and between them and letters and sciences faculties.

This chapter explores this structural ambiguity of American professional schools. I examine the academic branches of business and medicine, scrutinizing academic medicine especially closely, to discern patterns of change: trends in the balance of clinical and academic missions within business and medical schools, and shifts in the relationship between professional school and letters and sciences faculties and between the schools and letters and sciences disciplines. Business and medical schools display different patterns in the expression of clinical and academic missions. To describe and account for these differences, I draw upon data gathered in the UCLA Academic Profession Study mentioned in the introduction. As a participant in this study I conducted interviews with business and medical faculty and administrators, as well as with campus administrators and letters and sciences faculty in five American universities. Of 108 interviews, 76 were with professional school personnel.

The divergent missions of professional schools originate from the late nineteenth and early twentieth centuries when professional training was institutionalized within American higher education. Since that time discernible trends in the expression of academic and vocational goals have become evident. During the early and middle decades of the twentieth century, business and medical schools moved toward increasing conformity with university norms regarding scholarly productivity. Full-time faculties were expanded and upgraded; research norms gained salience in hiring and promotion decisions; professional schools emerged as major centers for the conduct of scientific inquiry. In recent years vocational concerns have reemerged within American professional schools. Though new indications of practical professionalism may be found in both business and medical schools, the form and manner of their expression are substantially different. In medical schools heightened tensions have appeared between scholarship and patient care; new types of accommodation have been forged in response. Work roles of medical school faculty have changed significantly. No less important, recent developments within medical schools have created dilemmas for letters and science faculties and, perhaps also, pressures for their disciplines. In contrast, business schools are characterized less by acute clinical-academic tensions from within than by the pull of practical professionalism from without. Management schools and universities, generally, are moving to maximize the relevance of management training to the needs of American business and to forge stronger ties with the profession's corporate clientele. I argue that these differences -- and, indeed, patterns in the broader

relationship between professional schools and universities -- originate in certain factors. These include characteristics of the practicing branches of the professions, structural features of professional schools, and the availability and nature of external funding for university-based research and training. Furthermore, the interrelationship between academic and practicing branches of a profession influences the professional school's evolving position within the university.

The discussion that follows is organized into four sections. The first explores differences in the nature of clinical-academic tensions in business and medical schools and the structural sources of these differences. The second section scrutinizes trends within professional schools during the early twentieth century and links these to arrangements established with the institutionalization of professional schools in the late nineteenth century. The American university combined differentiated -- but centrally administered -- organizational units for professional fields and letters and science disciplines with an unusually strong normative emphasis on both the production of knowledge and its application to practical problems. Over time, letters and science divisions became increasingly oriented toward vocationalism while professional schools became more academic. During the first half of the twentieth century, professional schools upgraded their faculties and, to a large degree, assimilated the norms and values of science.

In the third section, I examine the recent reemergence of practical professionalism. I argue that, among business schools, this trend is related to changes in contingencies facing American business and to

efforts of management schools to remain relevant to the interests of corporations. The reemphasis on applied concerns is more longstanding and thoroughgoing in medicine than in business; my discussion of the former is thus more extensive. Within the clinical departments of medical schools, noteworthy changes have occurred in faculty work roles. Department chairmen have placed greater stress on patient care skills when making faculty-hiring decisions. There is evidence of increasing differentiation between clinically oriented and research-oriented faculty and the more extensive use of nontenure-accruing appointments for the former. I link these and related phenomena to the growing centrality of university hospitals within the American health care system and to the increasing portion of medical school budgets drawn from patient care revenues. The fourth section discusses the consequences of developments within professional schools for letters and science faculty. Changes in academic work roles within medical school clinical departments has been accompanied by heightened tension between medical and letters and science faculties over appointment tracks and academic tenure. Finally, over the years, growing numbers of letters and science-trained Ph.D.'s have found employment within professional schools. I discuss professional schools as work environments for such academics and offer speculations about what impact employment trends may be having on the character of knowledge produced by disciplinary subfields.

VARIATIONS OF STRUCTURAL AMBIGUITY

That business and medical schools display different types of structural ambiguity ought not be surprising. Academic branches of professions

vary markedly in their positions within universities and in the nature and course of their academic-vocational tensions. These differences stem from certain organizational characteristics of the professional schools and from structural features of the professions themselves. Examining the organizational traits of academic business and medicine will make these points clearer.

Medicine has a number of attributes that significantly influence the standing of its academic wing. The profession has a dependent and unorganized clientele; since the late nineteenth century it has had a powerful and politically effective guild organization and exceedingly legitimate intellectual foundations. These features enabled medicine to win an unprecedented degree of authority within society.⁴ They also helped place its academic branches in a very strong position within the university. But one characteristic of academic medicine itself is perhaps most influential in determining the unfolding expression of academic and clinical missions: in medical colleges, vocational training actually takes place under the aegis of the university. University training programs in business, engineering, and law transmit the intellectual bases of professional practice. Entrants acquire practical skills after formal training in the early years of their careers. In medicine, not only is clinical training a legal prerequisite for practice, but much applied training takes place within institutions of higher education. Medical colleges, and other health training schools modeled after them, are the only professional schools in which students, trainees, and faculty routinely engage in hands-on professional practice.

The locus of this professional activity is the university teaching hospital. Of the 127 medical schools in the United States today, 65 own their own hospitals, and the majority of others control the management of one or more hospitals. Medical schools are divided into two types of academic units: basic science departments like anatomy, physiology, or biochemistry, and clinical departments like internal medicine, surgery, or radiology. The former group is similar to departments in the letters and sciences division of their campuses; faculty conduct research, train graduate students in laboratory investigation, and provide classroom instruction to medical students in scientific fields relevant to the practice of medicine. The clinical departments, however, are as much a part of the hospital as the medical school. Virtually all teaching is done in the context of professional practice. Though research is conducted and is highly valued, a major function of each department is to manage and staff hospital service units. The clinical departments of American medical schools perform fundamentally different tasks than do basic science and letters and science departments and have fundamentally different courses.⁵

Just how these organizational arrangements arose is a very complex question. For the moment, let us say they are an artifact of the historical development of American medical colleges. Whatever the origins, making practice a major function of academic departments has significant consequences. One is that the academic and practicing branches of the profession are highly interdependent. The academic wing of medicine has a much greater impact on the organization and delivery

of services outside the university than is the case in any other profession.⁶ At the same time, medical schools are highly influenced by developments within the practicing profession and are vulnerable to the forces that affect the health care industry. The inclusion of professional practice within clinical departments also produces extremely sharp tensions between academic and vocational missions and values. These strains are probably sharper in medical colleges than in other professional schools.

Academic-vocational tensions occur in at least three different institutional arenas. In clinical departments of medical schools, faculty have substantial patient care responsibilities in addition to the usual professional duties of research, teaching, and administration. Many experience great difficulty in balancing clinical work with research and publication requirements of promotion and academic tenure. The strain is particularly large for faculty in subfields where research tends to be unrelated to patient care activities. A second location of tension within medical schools is between clinical and basic science departments. These units vie over both the distribution of institutional resources and the appropriate priority of institutional missions. Their faculties may also be in conflict over what constitutes good research and what criteria ought to be used in tenure and promotion decisions.

Medical schools are at odds with the faculty and the administrations of their parent campuses. This is a third source of conflict. Major issues here include faculty appointment lines and tenure criteria. Medical school spokesmen argue that they must be able to keep faculty who are necessary for hospital functioning but are weak in research

productivity or investigatory skills. An example frequently offered in this context cites anesthesiologists who, according to their medical colleagues, are often deficient in scientific publications but indispensable to the patient-care obligations of the hospital. At each of the campuses visited in the Academic Professions Study, some type of accommodation is made for medical school faculty. At a few schools, tenure and promotion decision-making is highly decentralized; professional schools are, in essence, allowed to make their own personnel decisions. Tensions are greatest on campuses where a bona fide faculty review takes place above the level of professional school deans. At one such school in our sample, specific criteria are utilized in decisions regarding medical school appointees. At several, the medical school is permitted to retain faculty rejected for tenure by switching them to nontenure-accruing faculty appointment lines. But these accommodations are uneasy ones, accompanied by dissatisfaction and perennial controversy.

The academic branch of management presents a different type of structural ambiguity. In business schools attributes of the practicing profession are dominant in shaping the expression of vocational and academic missions. Several merit emphasis. For one, business administrators must contend with corporate, not individual, clients. Unlike medicine, with a strong guild and dependent clients, management has almost no guild organization but has a very powerful clientele. Practitioners gain status not through membership in the profession but through association with and mobility within large-scale corporations. Minimal use of licensure is one indication of weak guild organization;

accounting is the only field within business in which certification is utilized. Aspiring managers do not need a license to obtain a job, nor do they need a professional degree to succeed at business. Another characteristic was pointed out by one of the informants in the Academic Profession Study. As this management professor put it, in business schools there is less consensus about what constitutes the knowledge base of professional practice and more variation among schools about what is actually taught than is the case with schools of medicine, engineering, or law. In business, then, the link between university training and professional practice is highly tenuous.⁷

One consequence of these characteristics is that academic branches of business have relatively little impact on professional practice. Another relates to the expression of academic and vocational missions. In management schools tensions arise not from the presence of professional practice but from schools' efforts to satisfy competing sources of legitimacy. Status is derived from both academic respectability and the favorable opinion of business leaders. Like individual managers, business schools are affected by the power of the profession's corporate clients. Links with large-scale corporations are a source of prestige for management schools as is the ability to place graduates in leading firms. In addition, the position of management schools within the university is improved by corporate gifts and collaborations. Thus, there are strong incentives for business school deans to court the favor and patronage of business and to gear academic programs to perceived corporate interests. But good academic credentials are not only critical for business school

standing within the university, they are vital to their reputation with business. The latter point ought not be surprising; as with other professions, the integration of training schools into the university was the important basis of legitimacy for management as a profession.

Academic reputation allows schools to attract the type of students that corporations feel make the best employees. At the same time, the route to academic respectability carries with it the danger that research and teaching will be perceived as irrelevant to management practice, a problem to which business schools are readily disposed. If strains associated with competing sources of legitimacy are found in other professional schools as well, they appear to be particularly strong in management due to the nature of its clientele and the equivocal link between knowledge and practice.

Disagreements surrounding executive training programs provide an example of academic-vocational tensions in management schools. Executive training is short-term vocationally oriented instruction for practicing managers. In the past several years, many business schools have initiated or expanded such programs, which are run independently of the regular academic curriculum. Executive training allows schools to strengthen links with the business community and -- since it is extremely lucrative -- provides schools and participating faculty with substantial additions to their income. But there is strong sentiment among the faculty of some schools that these programs conflict with academic functions, especially research activities.

Academic medicine confronts the demands of competing activities placed within the professional school; the academic wing of business strives to reconcile conflicting sources of legitimacy. The result for medical schools is acute and pervasive tension; for business schools it is a propensity for crises of quality and relevance. The general point here is that characteristics of practicing professions, as well as features of the schools themselves, powerfully influence the dilemma faced by professional schools and their faculties. Professions vary significantly not only in prestige and technologies but in the social location of service delivery, the nature of clientele, and degree of guild organization. All of these factors affect the academic branches and their evolving position within the university.

ASSIMILATION OF UNIVERSITY NORMS

Professional training became a fundamental mission of American institutions of higher education during the late nineteenth and early twentieth centuries. During this time instruction in new professional fields was introduced into the university, and training in the older professions was upgraded and brought more firmly into the institutional fold. These developments were not isolated reforms but part of a series of radical changes that produced the American university in its modern form. The innovations contributing to this new species of organization are well documented. Masters and doctoral programs were initiated as tiers above the preexisting baccalaureate programs, and graduate education emerged as a major educational function. (Professional schools were established as part of this educational tier offering largely, though

not exclusively, postbaccalaureate training.) Discipline-based departments became the basic unit of academic administration. Scientific norms were integrated into the reward structure at leading schools, and research was elevated to a primary position among institutional goals.⁸

The inclusion of professional training within the university was not inevitable; other arrangements were possible. The American higher education system might have been more highly decentralized with training in some or all vocational fields located in independent institutions or in schools with only loose university affiliations. There were in fact objections to some vocational programs; Veblen argued vociferously that training for business had no place in American universities.⁹ In medicine, also, other patterns are conceivable: basic science and clinical training might have remained separate with the latter taking place in teaching hospitals outside the university's purview.¹⁰ But the American university was designed with unusually strong commitments to both scientific progress and service to society at large -- or depending upon one's ideological predilections -- to powerful interests within it. The university was created at a time when professions were emerging as a dominant occupational type and as an important source of social integration. It was mandated to transmit the skills and attitudes individuals needed to succeed in an industrialized and professionalized society.¹¹ Professional training was embraced as a central function of higher education, and professional schools were established, parallel to letters and science divisions, under a relatively cohesive central administration. All this occurred in an institution highly oriented toward the advancement of knowledge through scientific means.

The strong leaning of American universities toward both scientific norms and practical professionalism had strong consequences for both vocational and letters and sciences faculties. Along with the consolidation of the American university came the "professionalizing" of university faculty. In letters and sciences fields, the well-rounded, classically educated gentleman-scholar was replaced by a discipline-oriented scientist pursuing research in highly specialized fields of knowledge. Academic careers were regularized in part through the spread of sequenced and graded faculty appointments. At the top schools, doctoral training became a routine requirement for entrance into faculty positions and scholarly achievement became requisite for advancement to successive levels of professorial appointments.¹² Among professional school faculties, assimilation of research norms took place more slowly, extending well into the middle of the twentieth century. It necessitated the creation of careers in academic branches of the professions distinct from those in professional practice. In business and medicine this was accomplished with aid from private foundations and, in medicine, support from the federal government.

The basic science faculties of medical schools were functioning much like letters and science professoriats as early as the late 1880s. But in clinical departments older traditions lingered. University appointments were prized by medical practitioners because they helped physicians attract upper crust clientele to their private practices. Faculty appointments were especially important to physicians seeking to establish specialized practices in the period predating regularized

speciality markets and standardized residency training. Physicians spent years at medical school and hospital posts building personal reputations for specialized expertise.¹³ At the turn of the century, professional elites that controlled American hospitals wielded substantial influence over the selection of clinical faculties in medical schools. Abraham Flexner complained bitterly about this in his writings on American medical training.¹⁴ One of the motivations for bringing teaching hospitals under university management was to wrest control of faculty appointments from the practicing profession. Many universities won this battle by the 1920s or 1930s, but clinical departments were still staffed largely by part-time faculty, physicians who received small salaries for their teaching activities but spent much of their time and earned most of their income in private practice. Conformity to university norms required full-time appointments that allowed time for, and rewarded, research productivity.

The initial funding for full-time clinical appointments in American medical schools was stimulated by the Flexner Report (itself a Carnegie Foundation effort) and was provided by private sources, most notably the Rockefeller Foundation.¹⁵ Really large increases in full-time posts came after World War II, supported by a massive influx of federal research funds. Between 1950 and 1980 the number of full-time faculty appointments in clinical departments rose from 2,300 to 37,700 while the total medical school posts (including clinical and basic science departments) increased from 3,900 to 50,500.¹⁶ By the late fifties and sixties, clinical departments had made substantial movement toward assimilating university

norms. At top schools academic standards were employed as the principal criterion in hiring and promotion decisions. American medical schools emerged as major centers for the conduct of biomedical research with scientific efforts occurring both in clinical and basic science departments. Huge increases in faculty posts were supported largely by soft money, rather than by institutional funds like endowments or tuitions; this would eventually catch up with American medical schools, but not until after the boom period of the postwar era.

Among business schools, adoption of academic norms occurred even later than in medicine. University training in management was itself initiated considerably after programs existed in medicine and law. The first collegiate business programs appeared in the late 1800s as offshoots of letters and science divisions, particularly in economics departments; these were undergraduate programs offering a variety of liberal arts training for the aspiring businessman. Between 1920 and 1940 more and more colleges and universities introduced business education, and enrollments expanded both in numbers and as a percentage of the undergraduate majors. Vocationally oriented graduate programs were also initiated during this period, becoming increasingly numerous after World War II. Still, business education remained largely an undergraduate field; of the 600 colleges and universities offering business training in the mid-1950s, only 125 conferred masters degrees.¹⁷ Graduate programs and faculties of that era had a strong trade school character. Among full-time business faculty at mid-century, only 40 percent held Ph.D.'s (of these doctoral degrees, 85 percent were either in economics or

business).¹⁸ Many schools relied heavily on part-time teachers and retired businessmen for academic staff.

The professionalizing of business faculties, begun in earnest during the late 1950s, was catalyzed by the efforts of the American Assembly of Collegiate Schools of Business (AACSB) and by the publication of two foundation studies, the Gordon and Howell report, sponsored by the Ford Foundation, and the Pierson report, supported by the Carnegie Foundation.¹⁹ These studies criticized business schools for having a vocational orientation and low academic standards. Training programs were depicted as overly descriptive and insufficiently analytical; faculty were described as narrow in interests, intellectually obsolescent, and inadequate in research performance. Gordon and Howell advocated the building-up of graduate over undergraduate programs. Both reports urged the upgrading of curriculum and academic staff, the latter through the hiring of full-time research-minded faculty from a range of academic disciplines. During the 1960s and 1970s their recommendations were largely implemented. At leading schools scientific productivity became preeminent in decisions regarding hiring and promotion and, as in medicine, business faculties moved far in adopting university research norms.²⁰

REEMERGENCE OF THE CLINICAL

In recent years there has been renewed talk of vocationalism within American universities. Enrollments in the traditional science and humanities disciplines have declined both at the undergraduate and graduate levels, with students migrating into fields having practical applicability and clear-cut career paths. Computer sciences, business,

and other professional fields are among the popular areas of concentration.²¹ Even within professional programs, student interests seem to have shifted. Medical educators complain that present-day trainees are less interested in research than were previous groups and that a higher proportion of graduates are entering careers in professional practice.²² Shifts in student enrollments and interests are not the only suggestions of heightened vocationalism. Professional school faculty and administrators are sending new messages about the balance of academic and clinical missions.

Among business educators there have been rumblings during the past several years that professional training has lost relevance for management practice. Critics argue that degree recipients are sophisticated in the use of models and are adept at quantitative techniques but lack important management skills including the ability to set goals, make value judgments, identify problems, engage in entrepreneurial activity, and make decisions that involve complex trade-offs. Commentators blame business faculties who are described as lacking interest and experience in management practice and as being preoccupied with research in disciplines. In the words of one critic: "The research in business administration during the past twenty years would fail any reasonable test of applicability or relevance to consequential management problems. . . . The orientation of business faculty to the research concerns of their disciplines has gone so far as to give courses on management second class status."²³ At present there are two national panels in the United States looking into management training. One was initiated by business school deans and is

being carried out through the AACSB. The other is sponsored by the Business Education Forum (an arm of the American Council on Education), which is composed of university presidents and corporate executive officers. Both panels are concerned with the adequacy of professional education for management practice. Within medical schools also, there are abundant signs that clinical concerns have gained renewed salience.

These developments suggest that the movement toward academic norms within business and medical schools has peaked and that we are now seeing a swing toward practical concerns, a reassertion of vocationalism. Does this mean that there have been, or will be, changes in the roles and commitments of business and medical school faculty? In management schools it is still too early to tell. Though there is considerable movement among business schools, it is not movement in a consistent direction. I argued earlier that the management profession derives status from both academic respectability and the favorable opinion of corporate leaders. These dual sources of legitimacy render business schools prone to crises of relevance. I believe that the current soul-searching going on among management educators is a response to development within business as an enterprise; this would include changes in the competitive position of American corporations in the world market and increased entrepreneurialism in certain sectors of the American economy. Management schools seem to be in the process of adjusting to new realities facing American business. These adjustments are likely to be supported by university presidents, many of whom see stronger ties with industry as part of a solution to the fiscal problems of American higher education.

It is no accident that one of the ongoing studies of management education is sponsored by a coalition of university and corporation presidents. But exactly where this process will lead regarding academic life within business schools is not yet evident.

In medicine the trends are more longstanding and easier to interpret. Research remains a central mission of American medical colleges, but the impact of clinical practice is being felt more strongly and in ways that are new and sometimes subtle and unexpected. These developments are linked directly to the original inclusion of direct patient care within medical schools and to more recent financing arrangements. Clinical practice and funding patterns create imperatives for medical school faculties quite disparate from those arising from university research norms.

Some observations about university teaching hospitals and their importance in the American health care system shed some light upon the origins and course of these developments. Medical school hospitals are not simply teaching and research facilities: they are also very important service institutions. Beginning in the late nineteenth century, hospitals in general grew in size and scope and assumed a central position in medical delivery. Teaching hospitals grew also and, with the expansion of research activities among clinical faculties, became the locus for new developments in medical technology. Innovations originate in university faculties and from there spread to a wider range of treatment facilities. As hospitals became increasingly crucial to the delivery of medical services, teaching hospitals assumed a special and prominent

position among hospitals. By the 1960s university hospitals were functioning as tertiary care centers, known for their ability to provide highly specialized, state of the art treatment unavailable at the bulk of treatment facilities. Also, by that time, at least some academic physicians were complaining that the service functions of teaching hospitals had grown to be excessive and that too many demands were being made on medical school clinical faculties.²⁴

During the 1960s and 1970s, growth of patient care activities among clinical faculties continued, these trends having been propelled largely by budgetary contingencies. American medical schools have relied heavily on financial support from outside the university, particularly on support from government agencies. Growth of medical faculties following World War II was funded largely by federal research dollars. In recent years the origins of external support has shifted; research grants leveled off in the 1970s while income from government insurance programs (i.e. medicare and medicaid) and from private insurance companies (e.g., Blue Cross and Blue Shield) increased very substantially. The government also encouraged the expansion of certain patient care programs directly; during the 1970s it created financial incentives for medical schools to establish primary care training programs. These were intended to counterbalance the medical schools' strong emphasis on highly specialized training with education in general branches of medicine. Among the results were a proliferation of medical school ambulatory care clinics and substantial growth in outpatient services. Meanwhile, the fiscal difficulties confronting American universities meant that institu-

tional funds from this source were dispensed with greater parsimony. For all these reasons, in the past two decades medical schools have become ever more dependent on patient care revenues.

One of the principal sources of this income is the professional billings of faculty within clinical departments of medical schools. At many schools physician billings are routed through fiscal and administrative units called Faculty Practice Plans (FPPs). These plans -- really, forms of group practice -- were set up in the 1950s and 1960s when part-time teachers, the bulk of medical school staff, were replaced by full-time faculty. In one type of plan, profits from faculty billings are pooled and then redistributed. Disbursement schemes vary widely; typically a percentage is directed into general medical school funds with the remainder going to clinical departments in proportion to the income each generates. Departments, in turn, use the largest portion of their share to pay faculty salaries. This type of FPP allows deans and department heads to monitor the patient care activities of academic physicians and to control the rewards accompanying medical practice. Between 1965 and 1981 income derived from these activities rose from 5.6 to 30 percent of total medical school revenues.²⁵ During the same time span, FFP income rose from 3 percent to 17.5 percent of medical school total operating revenues.²⁶ Though the increases are impressive, even these figures do not indicate how essential patient care income has become to the functioning of clinical developments. Heads of departments of medicine interviewed in the Academic Profession Study indicate that FPP funds alone typically constitute a third or more of their department income.

Dependence on patient care funds renders medical schools subject to the same forces that buffet the health industry in general, and at a time when the market for medical care is increasingly competitive. Federal policy during the late 1960s and early 1970s mandated the enlargement of medical school enrollments. In the view of many physicians, the result has been an oversupply of medical practitioners. Meanwhile, efforts by the federal government to control health care costs have created widespread concern among hospitals about maintaining current revenue levels from patient care activities. Medical school deans and department heads are more and more preoccupied with the balance sheet and are increasingly entrepreneurial in their strategies to maintain and enlarge patient care revenues. Their tactics include initiating a variety of patient care programs, including health maintenance organizations and preferred provider schemes, which may have little or no relationship to the research and teaching functions of the institution.

These trends have created powerful pressures within medical schools and have had profound consequences for academic physicians. Within clinical departments, five developments are particularly striking. First, the working lives of clinical faculty have become exceedingly stressful. This is so in part, because the financial problems facing medical schools have been transferred onto clinical departments and their academic staffs. In these departments on the order of two-thirds, or more, of faculty salaries is drawn from soft money, a combination of research funds and patient care revenues. At many institutions, clinical faculty are under substantial pressure to generate their own income

either through external grant support or clinical income. This creates severe strains for academic physicians, particularly those in the early stages of their careers. If a young faculty member does not succeed in acquiring research funding quickly -- or if an older faculty member fails to maintain external funding -- the department head may load on clinical duties that would make future research and grant activity close to impossible. Assistant professors with heavy patient care duties are likely to have great difficulty publishing enough to obtain academic tenure. These types of pressures, and the routine strain of balancing research and clinical duties, produce pervasive anxieties among clinical faculties. A number of respondents in the study volunteered the opinion that life in clinical departments was more tension ridden and less rewarding than it was in previous decades.

Second, new types of physicians are being added to the faculty of clinical departments, physicians whose greatest strengths are more in patient care than in medical investigation. Some of the new academic personnel are hired to staff special patient care programs like health maintenance organizations or ambulatory care clinics. But many are integrated into established clinical departments and divisions. The head of cardiology at one elite medical school told me that competition with community cardiologists has become so fierce and the importance of clinical income so great that, recently, he was obliged to consider clinical skills rather than research as the preeminent criterion in hiring division faculty. He said that this had never occurred before in his division. The dean of another medical school, also an elite institu-

tion, reported that this trend was widespread. Medical schools sometimes have the option of hiring clinically oriented physicians for new faculty slots, for example, in temporary postdoctoral positions or as hospital instead of medical school employees. But more often than not, they are brought in on some type of long-term academic appointment. In skills and stance these new recruits are similar to the part-time teachers prevalent in clinical departments earlier in the century; the difference is that those in the recent group hold full-time faculty appointments.

Third, there has been a trend toward greater differentiation in the roles and activities of academic staff within clinical departments. Fewer faculty successfully combine professional practice and medical investigation; a greater portion can be identified as either primarily researchers or primarily patient care providers. This trend has been discussed in a programmatic vein by Robert Petersdorf, a medical school dean and frequent commentator in The New England Journal of Medicine. He argues that progressive role differentiation is necessary because medical research has become too complex to be pursued successfully on a part-time basis. Physicians who divide their time between patient care and research are no longer competitive in a biomedical research world populated with physicians and Ph.D.'s who are full-time investigators.²⁷ But there is another impetus as well. As patient care activities have expanded and clinical income grows as a share of department revenues, at the top schools there has been no attenuation in the value placed on research. Increased role differentiation is the way this apparent contradiction has been reconciled. Department heads at elite schools

report that they routinely promote heavy patient care loads for some of their physicians in order to create time and generate salary and laboratory support for their research-oriented faculty. As one might expect, there is a great deal of conflict within clinical departments over the distribution of FPP revenues. Not all faculty are happy about the use of clinical income to support research activities. One of the most universally voiced complaints among faculty with heavy patient care obligations is that they receive too small a portion of the proceeds they generate.

Fourth, there has been a movement within medical schools toward the use of dual appointment systems. But if regular tenure track positions are still available to clinical departments, many schools have introduced nontenure-accruing lines or have used existing nontenure track appointments more extensively. Considerable variation in the characteristics of nontenure-accruing posts at different campuses is possible. At some schools the positions are available to all university departments; in others they are restricted to the medical college. The titles vary. Some institutions have separate lines for different categories of irregular faculty, for example, clinical, research, adjunct. The tracks also vary in the privileges and relative status accorded appointees. Nontenure-track faculty may or may not be permitted to vote in faculty senates or be eligible for sabbatical and other benefits routinely available to regular academic staff. But there are several commonalities across schools in how clinical departments use nontenure-accruing appointments. The posts are held largely by practice-oriented physicians who carry substantial patient care duties. Many in this group still hold tenure-

track positions, but increasing numbers are being routed into alternative appointments. (Ph.D. researchers are also hired in nontenure-accruing posts within clinical departments, as we shall see later.) Nontenure-accruing posts are not temporary positions. They are used to provide long-term, (but not guaranteed) employment for physicians who are important to the teaching and service activities of medical schools, but who have not met (or are not expected to meet) the requirements of academic tenure. The appointments also allow department heads to increase faculty positions in their departments without making permanent commitments of departmental resources. Data collected by the Association of American Medical Colleges (AAMC) suggest trends in the use of nontenure track appointments. In 1975, 58 percent of American medical schools reported they had nontenure-accruing appointments with separate titles.²⁸ By 1983, 77 percent were using nontenure-track posts in clinical departments, 73 percent in basic science departments. During the latter year, 43 percent of American medical schools indicated that more than one-quarter of their faculties were in nontenure-track appointments.²⁹

Fifth, academic tenure has become progressively less desirable for medical school faculty. This is in part because fewer faculty members are in tenure-accruing posts. But another important reason is that tenure guarantees little to academic physicians. As emphasized earlier, institutional funds provide only a fraction of faculty salaries within clinical departments; the largest share comes from research grants and patient care revenues. These are generated by physicians themselves in the course of their professional activities. In response to an AAMC

survey conducted in 1983, 40 percent of American medical schools indicated that tenure guaranteed a position but no income. In an additional 22 percent of schools, tenure assures only a portion of a faculty member's salary.³⁰ At one school visited during the course of the Academic Profession Study, special clauses were included in the contracts of some tenure-track faculty which make future employment contingent on the continued availability of funding.

Attitudes toward tenure among academic physicians are almost universally negative. In 1975, 70 percent of medical school deans reported they were against tenure in academic medicine.³¹ Among physician respondents in the study, virtually all felt that tenure was inappropriate to their professional school. One of their stated rationales is that with prevailing salary scales in clinical departments, deadwood is exceptionally costly. Another is that tenure is irrelevant because physicians always have the option to leave academia and go into professional practice. But there is an additional consideration underlying their hostility toward tenure: it creates invidious distinctions. Without firm income guarantees, the meaning of academic tenure in clinical departments is largely symbolic. The growing numbers of nontenure-accruing faculty feel like second class citizens; this creates morale problems within clinical departments. Nontenure-track faculty with heavy patient care obligations resent their low status, particularly in light of their importance to the economic viability to academic medicine. (At one medical school I visited, the administration handles these problems by concealing from its own faculty who is on a tenure track and who is not.) In recent years there have

been recurrent debates about whether tenure in medical schools ought to be abolished.³² But the truth is that, within academic medicine, the meaning of tenure has already substantially eroded.

THE PROFESSIONAL SCHOOL AND LETTERS AND SCIENCES FACULTIES

If the patterns described above have most direct impact on the work lives of academic physicians, letters and sciences faculty is affected as well. Recent trends have increased the level of conflict between medical schools and liberal arts faculties, a major line of contention being appointment tracks for faculty with clinical leanings. Universities vary in how much faculty senates are involved in decisions regarding appointment lines. For a number of reasons, where the position of campus-wide governance bodies is consequential, the introduction of nontenure-accruing clinical tracks has been controversial. For one, changes in appointment codes that create long-term, but unguaranteed, slots often conflict with stipulations projecting tenure for the bulk of university faculty. For another, letters and science faculties are concerned that proliferation of appointments of candidates lacking the usual publication requirements will result in a general lowering of academic standards. Finally, there is discomfort about having, in the university's midst, large cadres of nontenure-track, vocationally oriented faculty with fundamentally different missions and commitments from regular academic staff. Letters and science faculty worry about the impact this program may have on important university decisions, a concern that exacerbates existing fears about being outnumbered and outvoted by professional school faculty. Thus, when nontenure-accruing lines have

been approved by faculty senates, it has been with the inclusion of protective stipulations. At one campus visited in the Academic Profession Study there is a ceiling on the percentage of medical school faculty permitted in nontenure-accruing posts. At others, nontenure-track faculty are excluded from faculty senates and denied benefits and privileges accorded to regular faculty. Conflicts surrounding these appointments is likely to sharpen in the foreseeable future. Medical schools would like very badly to upgrade clinical tracks and remove the status differentials between them and regular faculty appointments. Many deans and department heads would be more than happy to abolish tenure for all medical school faculty. For their part, letters and science faculties would view such attempts as potential threats to their own tenure and to university standards and values.

Developments within professional schools have had other effects upon letters and sciences faculties which are more subtle and less readily apparent. I speak here of consequences for letters and science disciplines and for the work lives of discipline-based faculty. In the course of expanding research activities in the middle decades of the century, American professional schools absorbed a great many letters and sciences-trained Ph.D.'s into their faculties. Medical schools employed increasing numbers of biologists with Ph.D.'s within basic science departments and, more recently, added faculty with doctorates in both the biological and social sciences to clinical departments. Between 1965 and 1978 the portion of basic science faculty with Ph.D.'s (excluding those with both M.D.'s and Ph.D.'s) rose from 54 to 80 percent; the

portion of faculty in clinical departments with Ph.D.'s rose from 10.5 to 14.2 percent.³³ (The latter figure underestimates the Ph.D. population in clinical departments; many hold academic but not faculty positions, and as a result go uncounted.) Comparable statistics do not exist for business schools; nevertheless, during the last two decades management schools generally have raised the proportion of Ph.D.'s in their departments and brought in doctoral recipients from a wider range of social and behavioral disciplines. Ph.D.'s are attracted to professional schools by the substantially higher salaries than those in letters and science departments and by opportunities to do applied work and consulting. With the recent constriction of job openings in letters and sciences disciplines, professional schools have offered some individuals their only possibility of academic employment. The influx of Ph.D.'s has reached research standards in professional schools and has provided new job opportunities for doctoral recipients. At the same time it has created groups of letters and science trained academics with very different work environments and career contingencies than the same discipline faculty in letters and science departments.

The pressures and problems faced by Ph.D.'s in professional schools vary markedly by discipline and institutional location. Biologists in medical school basic science departments are in a relatively enviable position, particularly those at top medical schools. They report that their research environments are good and that they typically earn higher salaries and carry lighter teaching loads than biologists in letters and science departments on the same campuses. Some respondents feel basic

science departments have more difficulty attracting high quality graduate students necessary for the functioning of laboratories than do biology departments. Another perceived drawback of employment in basic science departments is that funding for faculty salaries, even tenured posts, rests partly on soft money. (Biology departments in letters and science divisions have avoided the practice of relying on extramural funds to pay faculty salaries.) Like the physician faculty of medical schools, biologists very often must generate some portion of their own income. This intensifies already severe pressures to secure research grants. The chairman of biochemistry at one top medical school quipped that, "a faculty position here is equivalent to a hunting license." At nonelite schools, biological scientists face more substantial difficulties. Clinical departments frequently dominate institutional policymaking, and support for basic research is likely to be minimal. At one school I visited, the medical college required that all indirect costs and overhead associated with research grants be covered by external funding; this limited the range of funding agencies from which biologists could seek support and thus hampered research efforts.

Biologists in clinical departments experience even more severe problems. They are very likely to be in nontenure-accruing posts supported entirely on soft money. Many work in laboratories directed by physicians and have little autonomy in conducting or initiating research; they serve, as one respondent put it, as supertechnicians. Those permitted to serve as principal investigators and obtain their own grant support are often prevented, by lack of professorial status, from having graduate

students and setting up their own research groups. Because teaching opportunities for Ph.D.'s within clinical departments are scarce, these individuals encounter difficulties shifting into tenure-track positions and qualifying for academic tenure later in their careers. Even those in relatively good positions are likely to feel like second class citizens, peripheral to the major activities of clinical departments. A participant in the study declared that the physician chairman of his clinical department showed him off to visitors with, "'I'd like you to meet our Ph.D. immunologist.' Like, I'd like you to see my pet cocker spaniel." Finally, Ph.D.'s in clinical departments tend to be isolated from others in their discipline and experience difficulty maintaining their professional identities.³⁴

The experience of medical social scientists also varies substantially by professional school. Letters and science-trained social scientists find management schools to be reasonably benign academic environments; they hold regular academic appointments, and their status is good relative to business administration doctorates. But in medical schools, social scientists encounter a familiar litany of problems: low status, nontenure-accruing posts, soft salary support. Many are on a grant-support treadmill, under pressure to conduct easily fundable, policy relevant, quick turnaround research. The pressures of this type of work world push social scientists far from their original disciplinary moorings.

The influx of doctorates into professional schools not only creates new work contingencies for letters and science-trained faculty; it may also be affecting the type of knowledge American universities produce. Ph.D.'s in professional schools typically conduct research in subfields

also pursued in letters and science departments; they often attend the same conferences and belong to the same disciplinary associations. Long-term patterns in Ph.D. employment have pushed some fields away from discipline-grounded and toward problem-oriented research. An example of this phenomenon is found in medical sociology, which emerged as a discrete area of research in the 1950s; a separate section for this subfield was created within the American Sociological Association (ASA) in 1962. During the first two decades of its development, researchers focused on issues central to the discipline of sociology. They examined the functions of medicine within society, the roles played by physicians and patients, the dynamics of professional socialization, the organization of medical professions and of medical institutions. During the 1970s and 1980s research took a decidedly practical turn, addressing questions consistent with the perspective of medical care providers. When and why do people engage in health enhancing behavior? What social factors contribute to the etiology of disease? Under what conditions do people seek care and comply with physicians' orders? While discipline-grounded work still goes on, the bulk of recent research in medical sociology uses social science techniques to address questions of an applied nature. No one factor alone accounts for disciplinary drift of this sort; trends in the funding of social research are undoubtedly partly responsible. I maintain that employment patterns are an important factor as well. Though jobs for sociologists within health training programs were scarce in the 1950s and 1960s, more positions have opened within academic health centers during the last fifteen years. Scrutiny of the current membership

list of the ASA's medical sociology section reveals that, among those who list work addresses, more than 40 percent are employed in schools of medicine, nursing, or public health. Sociologists in these professional schools are influenced by the vocational bias of their settings and are highly vulnerable to the impact that funding contingencies exert on the content of social science research.

I believe that trends of this sort may be widespread among letters and sciences subfields. Unfortunately, data necessary to make a very strong case to this effect are simply not available. AAMC statistics indicate that Ph.D.'s constitute a growing percentage of the medical school faculty. But at present there is no hard data on whether larger proportions of Ph.D. recipients in given disciplines, for example biochemistry, have entered medical school than letters and science departments. Nor is there aggregate data on the relative rates of growth of professional school and letters and science faculties. Much to my surprise, individual schools visited during the course of the Academic Profession Study could not provide information on growth patterns for their professional school and letters and sciences faculties. Our research universities simply do not know how the composition of their professoriate is evolving. Respondents in the study offered some impressions. Biological scientists (both letters and science departments and medical schools) thought it likely that higher portions of biology Ph.D.'s were accepting medical school posts. They reported a related trend: basic science departments have initiated their own Ph.D. programs with the help of NIH grants, and increasing numbers of biology Ph.D.'s are being trained in medical

schools. These doctoral recipients take jobs in medical schools or industry, rarely entering letters and science departments.

There is also some evidence that professional school employment is influencing the content of research conducted in disciplinary fields. Among interviewed biologists, about half felt that basic science departments, as work environments, were sufficiently different from letters and science departments, as to affect the character of research products. They reported that the former departments encourage investigation of disease-relevant phenomena the latter work on basic biological processes. Virtually all felt that Ph.D.'s in clinical departments were under strong pressure to conduct applied research. Respondents from the business schools also provide impressions on the impact of employment locale on research content. Several reported that after a number of years of teaching in a business school, faculty frequently shift their research agendas away from public nonprofit organizations toward private profitmaking corporations. If Ph.D. employment trends are influencing letters and science fields, the impact would be felt not in disciplines at large but in their discrete subfields. Research areas close to the knowledge base of professional practice would be particularly subject to such influence.

Finally, the topic of future prospects of scientific research within American medical schools deserves some comment. To date, basic science departments have remained relatively insulated from pressures facing the clinical wing of academic medicine. But medical educators express concern that this situation may not continue. Basic science

departments are made vulnerable by their reliance on external research grants and on money originating from faculty practice. The latter support is received directly from deans' funds and indirectly through cost-sharing or research grants. In the next decade economic problems facing medical schools are expected to intensify. Medical school deans are extremely worried about the potential impact of market competition and changes in medicare and medicaid reimbursement practices. If the financial plight of medical schools significantly worsens, basic science departments may be faced with declining institutional support and increasing pressures from the clinical wing of academic medicine. The dean of one elite medical school offered his perceptions: "Medical schools are becoming more like big corporations. That's what they are. We have the health care business, the industry right in the middle of the university. . . . The kinds of controls that a dean can exert are largely economic and managerial rather than moral or related to a vision of academic life. . . . [In the future] it will be much more difficult to see the academic health center as a place for the creation of knowledge for its own sake."

NOTES

1. Data provided by the National Center for Education Statistics on the disciplinary areas of four-year college and university professors suggests that 60 percent is a good estimate for the portion of the faculty in professional and vocational fields. In each of five universities examined in the UCLA Academic Profession Study, professional and vocational faculty made up 60 percent or more of the entire professoriat.
2. Wilson, Knapp, and Jones, "The Growing Managerial Imperative of the Academic Medical Center," p. 101; information from staff members at the Association of American Medical Colleges.
3. Light, "The Development of Professional Schools in America," pp. 345-346. Light's concept borrows from Robert Merton's notion of sociological ambivalence. See Merton, "Sociological Ambivalence," pp. 3-31.
4. Starr, Social Transformation of American Medicine.
5. I am indebted to Donald Light for emphasizing this point. See also Bucher, "Social Process and Power in a Medical School."
6. Jencks and Riesman, Academic Revolution, p. 218; also, Lewis and Sheps, Sick Citadel.
7. Collins argues that employers value business degrees not because they are thought to ensure technical skills but because they indicate appropriate motivation and attitudes. See "Functional and Conflict Theories of Educational Stratification," pp. 1011-1012. On the nonscientific nature of business education, see Veblen, Higher Learning in America, p. 205.

8. Veysey, Emergence of the American University; Jencks and Riesman, Academic Revolution, pp. 12-20.
9. Veblen, Higher Learning in America, pp. 203-210.
10. Even some present day medical educators advocate the separation of basic science and clinical training. See, for example, Ebert, "Can the Education of the Physician Be Made More Rational?"
11. Wiebe, Search for Order; Bledstein, Culture of Professionalism.
12. Parsons, "Professions," p. 542; Berelson, Graduate Education in the United States, p. 13.
13. Halpern, Rise of Medical Specialties.
14. Flexner, Medical Education in the United States and Canada; Flexner, Medical Education.
15. Brown, Rockefeller Medicine Man.
16. Association of American Medical Colleges, "Full Time Medical School Faculty," p. 1; Journal of the American Medical Association, "81st Annual Report on Medical Education," p. 2913.
17. Gordon and Howell, Higher Education for Business, p. 247.
18. Ibid., p. 343.
19. Ibid.; Pierson, Education of American Businessmen.
20. On the history of business education, see Gordon and Howell, Higher Education for Business; Pierson, Education of American Businessmen; Kephart, McNulty, and McGrath, Liberal Education and Business; Cheit, Useful Arts and the Liberal Tradition, pp. 83-107.

21. National Center for Education Statistics, Condition of Education, p. 123. On long-term trends toward professional and preprofessional curriculum, see McGrath and Russell, Are Liberal Arts Colleges Becoming Professional Schools? pp. 9-12.
22. Wyngaarden, "Clinical Investigator as an Endangered Species," pp. 417-424; Siperstein, "Training of Internal Medicine Faculty -- 1980," pp. 5-9.
23. Behrman and Levin, "Are Business Schools Doing Their Jobs?" p. 141. Other critiques include Grayson, "Business of Business Schools"; Hacker, "Shame of Professional Schools."
24. Seldin, "Some Reflections on the Role of Basic Research and Service in Clinical Departments," p. 979.
25. Relman, "Who Will Pay for Medical Education in our Teaching Hospitals?" p. 21.
26. Figures provided by the Association of American Medical Colleges.
27. Petersdorf, "Is the Establishment Defensible?," p. 1056.
28. Spellman and Meiklejohn, "Faculty Tenure in American Medical Schools," p. 625.
29. Association of American Medical Colleges, Faculty Appointment Policies and Practices, p. 15.
30. Association of American Medical Colleges, "Faculty Appointment Policies and Practices," p. 8.
31. Spellman and Meiklejohn, "Faculty Tenure in American Medical Schools," p. 624.

32. Petersdorf, "The Case Against Tenure in Medical Schools"; Spitzberger, "Academic Freedom and Tenure, Governance, and the Quality of Medical Education"; Smythe, Jones, and Wilson, "Tenure in Medical Schools in the 1980s."
33. Association of American Medical Colleges, "Full Time Faculty in 78 Medical Schools," p. 1; Fishman and Jolly, "Ph.D.'s in Clinical Departments," p. 19.
34. Gillis, "Role of the Basic Scientists in an Academic Clinical Setting," p. 2357.

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